

## WHAT IS CLAIMED IS:

- 1           1.     An SRAM memory cell comprising:  
2                 first and second inverters interconnected between first and second data nodes,  
3     each inverter comprising complementary MOS transistors connected in series between a DC  
4     voltage reference and a ground reference, and  
5                 means for programming the MOS transistors adapted for causing, after  
6     programming, an irreversible degradation of a gate oxide layer of some at least of the transistors.
- 1           2.     The SRAM memory cell according to Claim 1, wherein each inverter comprises a  
2     first PMOS transistor and a second NMOS transistor coupled in series between the voltage  
3     reference and the ground reference, the data nodes (N1, N2) being formed respectively between  
4     the two NMOS and PMOS transistors of the inverters.
- 1           3.     The SRAM memory cell according to Claim 1 wherein the degradable MOS  
2     transistor is a thin gate oxide layer transistor.
- 1           4.     The SRAM memory cell according to Claim 3, wherein the oxide layer is  
2     degradable at least locally in such a way as to obtain, during the reading of the cell, a variation in  
3     the current delivered by the transistor.

1           5.     The SRAM memory cell according to Claim 1, wherein the programming means  
2     comprise, for each inverter, a programming transistor (28, 30) or a diode linked between a  
3     programming control line (PROG) and one of the transistors of the inverter.

1           6.     The SRAM memory cell according to Claim 5, wherein the programming means  
2     comprise one of an NMOS transistor or a programming diode that selectively links the gate of  
3     the degradable transistor to a programming voltage reference delivering a voltage level able to  
4     cause, jointly with the DC voltage supply source linked to the drain of the degradable transistor,  
5     a degradation in the gate oxide layer of the transistor, the programming transistor being driven by  
6     the programming control line.

1           7.     The SRAM memory cell according to Claim 1, further comprising means for  
2     causing the cell to operate as an SRAM memory after programming.

1           8.     The SRAM memory cell according to Claim 7, wherein the inverters are  
2     interconnected by way of NMOS transistors linked to a control line for instructing the cell to  
3     operate as an SRAM memory.

1           9.     The SRAM memory cell according to Claim 8, wherein a drain electrode and  
2     source electrode of each of the said NMOS transistors are respectively linked to the gate of the  
3     transistors of one of the inverters.

1           10.    An SRAM memory cell of the 6T type which includes a pair of load transistors  
2   connected to a reference voltage, the memory cell further including a programming circuit  
3   coupled to a gate of at least one of the load transistors, the programming circuit delivering a  
4   voltage to the gate of the at least one load transistor which is sufficient to cause an irreversible  
5   gate oxide degradation for purposes of programming the memory cell to permanently store a  
6   certain data value.

1           11.    The SRAM memory cell of claim 10 wherein the programming circuit comprises  
2   a programming transistor having a source/drain terminal connected to a gate of the at least one  
3   load transistor and a drain source terminal connected to a voltage reference.

1           12.    The SRAM memory cell of claim 10 wherein the programming circuit comprises:  
2                   a first programming transistor having a source/drain terminal connected to a gate  
3   of a first one of the load transistors and a source/drain terminal connected to a voltage reference;  
4   and  
5                   a second programming transistor having a drain/source terminal connected to a  
6   gate of a second one of the load transistors and a source/drain terminal connected to the voltage  
7   reference.

1           13.    The SRAM memory cell of claim 12 wherein the first and second programming  
2   transistors are connected in series with each other.

1           14.    An SRAM memory cell of the 6T type including a pair of inverter transistors  
2    which are cross-coupled and a pair of load transistors, the memory cell further including a  
3    operational configuration circuit that selectively connects and disconnects a gate of a first load  
4    transistor to a gate of a first inverter transistor and selectively connects and disconnects a gate of  
5    a second load transistor to a gate of a second inverter transistor.

1           15.    The SRAM memory cell of claim 14 wherein operational configuration circuit  
2    comprises a pair of control transistors whose gates are connected to receive a control signal, a  
3    first control transistor having its source terminal connected to a gate terminal of a first load  
4    transistor and its drain terminal connected to a gate terminal of a first inverter transistor, and a  
5    second control transistor having its drain terminal connected to a gate terminal of a second load  
6    transistor and its source terminal connected to a gate terminal of a second inverter transistor.

1           16.    The SRAM memory cell of claim 14, further comprising a programming circuit  
2    coupled to the gate of at least one of the load transistors, the programming circuit delivering a  
3    voltage to the gate of the at least one load transistor which is sufficient to cause an irreversible  
4    gate oxide degradation for purposes of programming the memory cell to permanently store a  
5    certain data value.

1           17.    The SRAM memory cell of claim 16 wherein the programming circuit comprises  
2   a programming transistor having a source/drain terminal connected to a gate of the at least one  
3   load transistor and a drain source terminal connected to a voltage reference.

1           18.    The SRAM memory cell of claim 10 wherein the programming circuit comprises:  
2                   a first programming transistor having a source/drain terminal connected to a gate  
3   of a first one of the load transistors and a source/drain terminal connected to a voltage reference;  
4   and  
5                   a second programming transistor having a drain/source terminal connected to a  
6   gate of a second one of the load transistors and a source/drain terminal connected to the voltage  
7   reference.

1           19.    A method for operating an SRAM memory cell of the 6T type, comprising:  
2                   delivering a voltage to a gate of at least one load transistor in the SRAM memory  
3 cells which is sufficient to cause an irreversible gate oxide degradation for purposes of  
4 programming the memory cell to permanently store a certain data value.

1           20.    The method of claim 19 further comprising selectively connecting and  
2 disconnecting the gate of each load transistor to a gate of its series connected inverter transistor  
3 in the SRAM memory cell.